VERSION OF AMENDMENTS TO SHOW CHANGES MADE

In accordance with the requirements of 37CFR § 1.111, a marked up version of the amended specifications and claims is presented here.

IN THE CLAIMS

12. (amended) The logging apparatus of claim 4 wherein said quadrupole transmitter further comprises [2N] N pairs of diametrically opposed transmitter elements disposed circumferentially around said collar, where N is an integer greater than or equal to 2.

13. (amended) The logging apparatus of claim 12 wherein N is equal to two [one].

26. (amended) The logging apparatus of claim 23 wherein said quadrupole transmitter further comprises at least N [2N] pairs of diametrically opposed transmitter elements disposed circumferentially around said collar, where N is an integer greater than or equal to 2

31. (amended) A shear wave logging apparatus comprising:

(a) a drilling collar conveyed on a drilling tubular in a borehole within a formation, said drilling collar having a cutoff frequency for a collar mode

wave therein;

(b) a quadrupole transmitter on the collar producing a signal at a frequency below said cutoff frequency, said signal comprising primarily of a formation mode having an azimuthal variation substantially having a $\cos 2\theta$ [θ] variation, wherein θ is an azimuthal angle;

(c) at least one detector spaced axially apart from the quadrupole transmitter for detecting said signal; and

(d) a processor for processing the detected signal and determining therefrom a shear velocity of the formation.

44. (amended) A method of using an acoustic logging apparatus on drilling collar conveyed on a drilling tubular in a borehole within a formation, the method comprising :

(a) using a transmitter on the logging apparatus for producing a quadrupole signal comprising a formation mode and a tool mode;

(b) using at least one signal detector on the drilling collar spaced apart axially from the transmitter for detecting said signal; and

[(d)](c) using a processor for low-pass filtering a component of the detected signal having a frequency below a cutoff frequency of the tool mode in the drill collar;

53. (amended) A method of determining a parameter of interest of an earth formation using a shear wave logging apparatus on a drilling collar, the method comprising :

(a) using a quadrupole transmitter on the collar for producing a signal, said signal comprising a formation mode and a tool mode;

[(c)](b) using at least one detector spaced axially apart from the quadrupole transmitter for detecting said signal;

[(d)](c) using a processor for processing the detected signal using a filter for attenuating components of the signal above said cutoff frequency and determining therefrom a shear velocity of the formation.

Consideration of the application as amended is respectfully requested. The Commissioner is hereby authorized to charge any fee due for these amendments to **Deposit Account No. 02--0429 (414-23747)**

Respectfully submitted,

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